



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/487,359	01/19/2000	Dean A. Schaefer	1001.1387101	3074

28075 7590 11/28/2003

CROMPTON, SEAGER & TUFTE, LLC  
1221 NICOLLET AVENUE  
SUITE 800  
MINNEAPOLIS, MN 55403-2420

EXAMINER

MAIORINO, ROZ

ART UNIT PAPER NUMBER

3763

DATE MAILED: 11/28/2003

19

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/487,359

Applicant(s)

SCHAEFER ET AL.

Examiner

Roz Maiorino

Art Unit

3763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 23-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21, 23-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 3763

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4, 6, 11, 13-15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5057092 to Webster Jr.

Webster discloses a braided catheter with low modulus warp. Referring to FIG 2 this apparatus contains an inner tube 22 and outer tube 30 and an interwoven helical reinforcement layer 24 with an axial member 28. The reinforcement layer is located between the outer tube 30 and the inner tube 22. The inner and outer surfaces are free of protrusions caused by axial member 28.

The inner and outer walls 22 and 30 are made of flexible plastic material such as polyurethane. (Col.2, line 33) The axial member is made out of material with a level of flexibility, in which it allows for movement in relation to inner and outer tube. The helical members 24 are made of material having a high modulus of elasticity. Preferred helical members are made of stainless steel wire, although, depending on the application material such as Kevlar thread and modified polyethylene material may be used. (Col.2, lines 55-65)

Art Unit: 3763

Webster does not teach a helical member such that the axial member is always disposed over the first helical member when the axial member crosses the first helical member, and beneath the second helical member when the axial member crosses the second helical member.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have a helical member such that the axial member is always disposed over the first helical member when the axial member crosses the first helical member, and beneath the second helical member when the axial member crosses the second helical member, because applicant has not disclosed that the above cited limitation provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with a helical member such that the axial member is always disposed over the first helical member when the axial member crosses the first helical member, and beneath the second helical member when the axial member crosses the second helical member because they perform the same function.

Therefore it would have been an obvious matter of design choice to modify Webster to obtain the invention as specified in claim 1.

2. Claims 5,7-8, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 5057092 to Webster Jr. as applied to claim1 above, and further in view of U.S Patent No. 5891191 to Stinson.

Art Unit: 3763

As mentioned above Webster discloses a braided catheter with low modulus warp.

Webster, however, does not disclose the possibility of the helical members comprising of monofilaments. Stinson discloses a cobalt-chromium-molybdenum alloy stent and stent graft. Stinson's stent is made out of interwoven helical bridges, which are made of monofilaments.

Therefore, it would have been obvious to one having ordinary skill in the art the time the invention was made to combine the two studies because according to Stinson monofilaments are highly resilient, and allow deformation under external stress, but elastically return to the nominal shape when free of the external stress. (Col. 8, lines 35-38) This quality is highly desirable because when placing an object in to the vessel one can be assured that this apparatus is resilient to precede in the procedure yet is flexible enough not to treat through organs.

3. Claim 12 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5057092 to Webster Jr. as applied to claim 1 above, and further in view of U.S. Patent No. 5749891 to Ken et al.

As mentioned above Webster discloses a braided catheter with low modulus warp.

Webster, however, does not teach the helical material comprising of radiopaque material. Ken discloses a multiple layered vaso-occlusive coils. Ken teaches the coils that make up the stent may be made of radiolucent fibers or polymers.

Therefore, it would have been obvious to one having ordinary skill in the art the time the invention was made to combine the two studies because to place a helical member coated with radiopaque will allow the caregiver to follow the procedure with series of X-

Art Unit: 3763

Rays, it gives the physician eyes inside the patients lumens. With any procedure in medicine being able to see which part of the body you are advancing up on is half the battle, if you don't have visualization it will increase the risk of injury to the patient 10 fold.

4. Claims 9-10, 19-21, 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5057092 to Webster Jr, and further in view of US Patent No. 6361637 to Martin et al.

As mentioned above Webster teaches the invention except for utilizing monofilament comprising of liquid crystal polymers in a flat ribbon. Martine teaches a stent made from monofilaments comprising of liquid crystal polymers in a flat ribbon.

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have added Martin's monofilament comprising of liquid crystal polymers in a flat ribbon to Webster's invention, because according to Martine the ribbon formation allows kink resistant for the stent and the liquid crystal polymers add to the physical torsion enhancing ability of the stent. (Col.11, lines 50-65)

***Allowable Subject Matter***

5. The indicated allowability of claims 9-10 and 19-21 are withdrawn in view of the newly discovered reference(s) to US Patent No.6361637 to Martin et al. Rejections based on the newly cited reference(s) follow.

Art Unit: 3763

***Response to Arguments***

6. Applicant's arguments with respect to claims 1-21, 23-29 are have been considered but are moot in view of the new ground(s) of rejection.

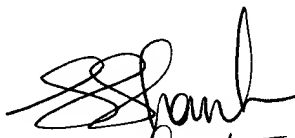
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roz Maiorino whose telephone number is 703-305-2336. The examiner can normally be reached on 8:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 703-308-3552.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

RM

  
L. Frank  
Primary Examiner